IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Philipp H. Nagel	**GROUP:**	3661
SERIAL NO:	10/037,303	**EXAMINER:**	Dalena Tran
FILED:	November 7, 2001		
FOR:	APPARATUS FOR CREATING A NAVIGATION MAP [as amended]		

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE

This document is in response to the Official Action dated July 21, 2006. Please amend the application as follows:

IN THE CLAIMS:

Claims 6-8 and 14-16 remain as follows:

1.(Cancelled)

2.(Cancelled)

3.(Cancelled)

4.(Cancelled)

5.(Cancelled)

6.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

a navigation processing unit that receives the sensor data, and requests map data from the navigation map data memory associated with the sensor data, and computes the map image from the map data,

where terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral,, where the Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

7.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

a navigation processing unit that receives the sensor data, and requests map data from the navigation map data memory associated with the sensor data, and computes the map image from the map data,

where terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral, where the navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which the Cornu spirals of the navigation map are derived.

8.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

a navigation processing unit that receives the sensor data, and requests map data from the navigation map data memory associated with the sensor data, and computes the map image from the map data,

where terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral, where the navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

9.(Cancelled)

10.(Cancelled)

11.(Cancelled)

12.(Cancelled)

13.(Cancelled)

14.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

means for receiving the sensor data, for requesting map data from the navigation map data memory associated with the sensor data, and for computing the map image from the map data,

where the means for computing computes the map image using Cornu spiral polynomial coefficients stored in the navigation map data memory, and terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral and the Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

15.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

means for receiving the sensor data, for requesting map data from the navigation map data memory associated with the sensor data, and for computing the map image from the map data,

where the means for computing computes the map image using Cornu spiral polynomial coefficients stored in the navigation map data memory, and terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral and the navigation map data

memory includes coordinates of the unit Cornu spiral stored in a table, from which the Cornu spirals of the navigation map are derived.

16.(Previously Presented) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form and data indicative of a unit Cornu spiral; and

means for receiving the sensor data, for requesting map data from the navigation map data memory associated with the sensor data, and for computing the map image from the map data,

where the means for computing computes the map image using Cornu spiral polynomial coefficients stored in the navigation map data memory, and terms of polynomials of the unit Cornu spiral are stored in the navigation map data memory and the map image is computed using the terms of polynomials of the unit Cornu spiral, where the terms of polynomials are associated with Taylor series expressions indicative of the Cornu spiral and the navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

17.(Cancelled)